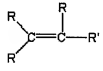
REMARKS

Reconsideration of the present application in view of the following remarks is respectfully requested.

Claim 54 includes specific limitations which clearly distinguish this claim, as amended, over the prior art.

One distinguishing feature of the invention as now claimed is the requirement that the compositions include a compound according to Formula II, namely,



(II)

where each R is independently Cl, F, I or H; R' is $(CR_2)_nY$; and Y is CRF_2. Thus, there is no possibility that any of the substituents on the compound are bromine. This feature clearly distinguishes over US Patent 6,300,378 -- Tapscott since Tapscott is focused on brominated compounds and teaches that every compound should include bromine. This teaches away from the invention as now claimed.

Another distinguishing feature of the invention as now claimed is the requirement that the compositions include a compound according to Formula II having a total of at least four halogen substituents. This clearly distinguishes over items of prior art which disclose compositions containing compounds having lower levels of halogenation, such as trifluoropropene, which is disclosed for example in U.S. Patent 4,944,890.

The present claims also require another feature which is not present in the compounds disclosed for the compositions of U.S. Patent 4,944,890. More specifically, the present claims require that at least one of the halogen

substituents is located on an unsaturated, non-terminal carbon atom. The '890 patent discloses HFC oils in the form of polymers of the formula Rf (CH2)n CH=CH2 where "Rf" may be anywhere from CF_3- to $C_{10}F_{21}$ - or higher (see Col. 3, l. 22 et seq.). Thus, all of the compounds according to this formula of the '890 patent contain only H on the unsaturated, non-terminal carbon. There is no disclosure of a halogen at this location. Similarly, U.S. 6,111,150 discloses 1,3,3,3-tetrafluoropropene in the background section, indicating that such a compound has use "as an intermediate of Medicine, of agricultural chemicals, and of functional materials, and as a Refrigerant and the like (see Col.1, l. 48 et seq.) However, this compound also fails to disclose or suggest the requirement of the present claims for a compound in which a halogen, such as F, is located on the unsaturated, non-terminal carbon. In other words, there is only H on the unsaturated, non-terminal carbon of 1,3,3,3-tetrafluoropropene (HFO-1234ze). This difference can have a substantial impact on the performance of the compositions in accordance with the present invention. For example, the present specification shows that a substantial difference (namely, a substantial improvement) in the performance of the composition as a replacement for the prior refrigerant HFC-134a can result when HFO-1234yf (which has F on the unsaturated terminal carbon, as required by the claims) is compared to 1,3,3,3-tetrafluoropropene (HFO-1234ze). See the substantial difference in relative capacity illustrated in Table I, page 18 of the present specification, which is reproduced below:

TABLE I

REFRIGERANT COMPOSTION	*Relative COP*	*Relative CAPACITY*	DISCHARGE TEMPERATURE (°F)
HFO 1225ye	1.02	0.76	158
HFO trans-1234ze	1.04	0.70	165
HFO cis-1234ze	1.13	0.36	155
HFO 1234yf	0.98	1.10	168

And finally, another feature of the claims as amended which distinguishes over the prior art is the requirement that the Formula II compound has not more than one F on the terminal unsaturated carbon. As explained in the present specification, the feature of toxicity, which can be important in certain situations, can be significantly impacted by the substituents on the unsaturated terminal carbon:

> On the other hand, applicants have found that a relatively high degree of toxicity may be associated with certain compounds adaptable for use with the present compositions, namely, those compounds which have more than one F on the terminal unsaturated carbon....

(see page 6, lines 15 – 19). Thus, while prior art, such as U.S. Patent 6,041,621, discloses tetrafluoropropene generically (see Col. 2, l 49 et seq.), there is no suggestion in this patent of the importance of the placement or not of fluorine on the unsaturated terminal carbon of such compounds. Thus, the requirement of the present claims for not more than one F on the terminal unsaturated carbon is feature that patentably distinguishes the invention as now claimed.

III. CONCLUSION

Applicants believe that the claims as now pending patently distinguished over the prior art, and an early notice thereof is hereby earnestly solicited. Should the Examiner have any questions regarding this paper, she is invited to contact the undersigned at the telephone number indicated below.

Respectfully submitted,

Date: 12/8/2006

/Joseph F. Posillico/

Joseph F. Posillico
Registration No. 32,290
Synnestvedt & Lechner
2600 Aramark Tower
1101 Market Street
Philadelphia, PA 19107
Telephone: (215) 923-4466
Facsimile: (215) 923-2189